

Wireless Batteryless Remote Sensors for Automated Monitoring, Control, and Inspection, Phase I

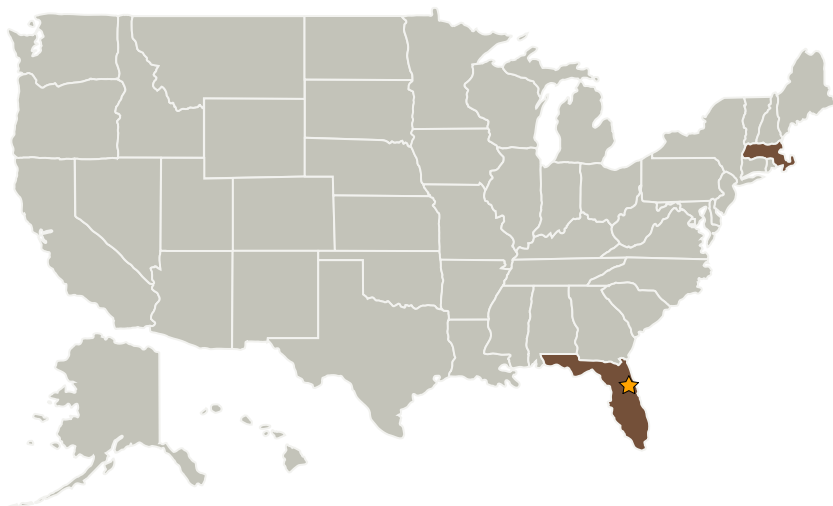
Completed Technology Project (2004 - 2004)



Project Introduction

Two new categories of wireless batteryless sensors are proposed: magnetoelastic and LC type. These sensors are also chipless which provide significantly lower cost and also higher operating temperatures than chip-based sensors. This technology is an alternative to SAW (surface acoustic wave) wireless sensors that cannot operate through many materials layers, such as in a vehicle structure or fuel tank. Magnetoelastic sensors and LC sensors operate at lower frequencies that have better penetration and also enable lower-cost readers and antenna arrays to be constructed. Among the parameters that can be sensed are: temperature, pressure/strain, humidity, and chemical environment. The PI is the inventor on several patents (others pending) for these sensor technologies.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Kennedy Space Center(KSC)	Lead Organization	NASA Center	Kennedy Space Center, Florida
TagSense, Inc	Supporting Organization	Industry	Cambridge, Massachusetts



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Kennedy Space Center (KSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Florida

Massachusetts

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Richard Fletcher

Technology Areas

Primary:

- TX13 Ground, Test, and Surface Systems
 - └ TX13.2 Test and Qualification
 - └ TX13.2.7 Test Instruments and Sensors